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The Palmer Arm & Leg.

CORRESPONDENCE

WITH

THE SURGEON-GENERAL U. S. A.

AND THE

Chief of Bureau of Medicine & Surgery U. S. A.

WITH LETTERS FROM

EMINENT SURGEONS,

AND A

COMMUNICATION FROM B. FRANK. PALMER

TO THE

BOARD OF SURGEONS

Convened to decide on the best Patent Artificial Limbs to be adopted
for Use by the

ARMY AND NAVY OF THE U. S.

PHILADELPHIA:

C. SHERMAN & SON, PRINTERS.

1862.

TO THE MUTILATED SOLDIER.

I AM indebted to Surgeon William Johnson, of the United States Naval Hospital, Philadelphia, for acts of courtesy and kindness which elicited the following correspondence with the Surgeon-General and the Chief of the Bureau of Medicine and Surgery.

Surgeon Johnson at an early day wrote to the Head of the Department inquiring for information in reference to the appropriation of \$15,000 voted by Congress for supplying ARTIFICIAL LIMBS for mutilated soldiers. *He received a reply, instructing him to purchase Limbs of the "most approved kind," for the inmates of his Hospital, having strict reference to "economy,"* however, as \$5000 only of the appropriation was set apart for the unfortunates of the Navy. Under these instructions he waited upon me, and expressed the desire that my Patent Limbs should be furnished for his patients, and also be adopted by the Surgeon-General for the use of *all the recipients of the National bounty* which had been intrusted to him for disbursement.

So desirous was Surgeon Johnson that this should be done, he kindly proposed to become the medium of transmitting a communication from myself to the Chief of the Bureau. I immediately placed a letter in his hand; and if I may judge from the reply which I received from Dr. Whelan, and from Surgeon-General Hammond, that my letter suggested the appointment of the Board of eminent Surgeons convened shortly after by the Surgeon-General to investigate the subject, I think I may safely conclude that the labor and expense which I have

assumed in the matter will in due time be recognized, when an impartial award shall be made by the *first Surgical Council ever convened for a similar purpose*.

While I could appreciate the compliment tendered by Surgeon Johnson in giving my Invention the preference, yet it occurred to me that there should be at the beginning some *well-matured plan* settled upon by the Surgeon-General to give suitable direction to the funds, or else the munificence of Congress would prove to be of little avail to the unfortunate. The small appropriation, I thought, might become the *nucleus* of a National fund which would confer incalculable blessings on an army of gallant men, who, to save the Nation from dismemberment, have consecrated the soil of an empire with blood, and sacrificed a thousand—yes, ten times a thousand—of the noblest hands that ever brought so precious tribute to the altar of Constitutional Liberty.

Without a suitable appointment to a trust so important, no man could do it entire justice. In the first place, to *divide* so small a sum between different Inventors would afford each but an inconsiderable amount, hence the limbs could not be afforded at a price for which they might be made in large numbers. Indeed, it appeared to me that such a professional work, *on so grand a scale as it must be done in this country*, could not properly be effected by “contract;” and I am of the opinion that an appointment of a suitable person as Surgeon-Artist to the American Army, is essential to the interests of the Nation, and demanded by the just claims of ten thousand mutilated heroes.

In that way the expense to the Government may be essentially reduced, and at the same time the soldier will be sure of truly professional treatment.

Actuated by these considerations, and myself desirous of the honor of such an appointment as will in some manner enable me to devote my humble ability in promoting the National welfare while serving the unfortunate, I wrote the letters before alluded to, and which I will now present, with the reply of the Surgeon-General and the Chief of the Bureau of Medicine and Surgery.

B. F. P.

LETTERS.

B. FRANK. PALMER TO THE SURGEON-GENERAL.*

GENERAL W. A. HAMMOND,

SURGEON-GENERAL U. S.

WASHINGTON, D. C.

SIR : Many benevolent persons of distinction, among whom are eminent surgeons of this city, New York, Boston and elsewhere, have urged upon me the importance of my addressing you in reference to the matter of supplying the mutilated of the Federal Army with the "PALMER ARM" and "LEG." This may be my apology for troubling you at this time.

It is possible that you have not had an opportunity to inspect the mechanism of my Inventions; also, you may not have devoted much thought to the subject of artificial limbs. For these reasons I beg leave to call your attention to the following considerations, viz. : All experience has proved that the "peg," while it was the best substitute known, even so late as the time of the illustrious Ambrose Paré, yet that rude relic of barbarism has ever been to a person of any sensibility a more unwelcome appendage than the simple crutch, the latter being separable from, and an appliance of, the mutilated, while the former, by its *attachment to the person*, seems to form a *part of one's identity*, imparting to mutilated humanity a more unsightly appearance than the stump of the fallen tree by the wayside possesses, and advertising at every step to the beholder, not only the loss sustained by amputation, but also the *wooden clog*, which must forever remain simply a *pitiful elongation* rather than an improvement of the mutilated limb. To this fact testimony is borne by the writer, who at the age of ten years lost a leg, and, after walking (with the utmost facility possible in such a case), on the best form of a "peg," threw it aside, as thousands of persons

* A copy was addressed to the Chief of the Bureau of Medicine and Surgery.

have done, to walk on the crutch, being more comfortable, and less mortified by the absence of the natural limb, than when using the rude substitute, and finding the crutch far preferable as a utilitarian appliance, the body and limbs being subject to less restraint under many circumstances. Without a doubt, Doctor, your own knowledge of the injurious effects of the crutch is such as to render remarks on that subject unnecessary; yet allow me to offer the opinions of several eminent surgeons, which will fully confirm the view you entertain of its ruinous effects on the mind and body of the person whose frame it tortures. (See pamphlet of "Testimony," &c.)

The testimony which I offer in reference to my Inventions, is of such high character as admits of no doubt that the "best" artificial limb, at a reasonable price for it, is most *economical* as well as most useful and desirable.

I will be direct and explicit. I speak from personal experience of ten years on the crutch, and seventeen years on the "peg," and various artificial limbs. Next to my own was the invention of Mr. Potts, an English gentleman, who also lost a leg at an early age, and, to meet the exigency of personal want, invented the "Anglesey Leg." I bear more than willing testimony to the credit due this ingenious English inventor, whose productions I was assured by gentlemen residing in London in 1851 (who had received the benefit of his personal labor), had never been equalled by any copyist. I simply give utterance to the feelings of my mutilated friends when I state that, to nine persons of every ten, any artificial leg but the "best" is considered by them as a doubtful consolation, and a questionable gain at any cost, however small. The time consumed in attempts to learn to use an inferior limb, and the certainty of speedy decay or of breaking the mechanism, point unmistakably to the inevitable conclusion that the amount expended on such a leg is an unprofitable investment, and the unfortunate possessor is finally subjected to the purchase of a second substitute. I have been in the business since 1846, and have fitted several thousands of limbs. In my practice I am able to point to more than *one thousand cases of this kind*, several of which are reported in the book of "Testimony," which I mail herewith for your perusal.

I take the liberty to inclose a copy of a letter recently re-

ceived from the Rev. H. W. Bellows, D. D., President of the Sanitary Commission. In it, you will notice, he expresses the opinion that "the benevolence of every considerable town will prompt it to furnish any halt or one-legged soldiers belonging to it with your (my) 'Leg,' if Congress shall fail to supply them." This view of so eminent and so practical a man, cannot fail to elicit the respect its importance demands, and will, I am assured, comport favorably with your own.

The proofs of the universally-accredited superiority of my inventions will be found in the pamphlets I send accompanying this letter.

My experience in this profession is much greater than that of any other man in the country, or the world.

The inventor seldom is able to construct his invention, and the mechanic is more rarely a successful inventor. Both the inventor and the mechanic are usually poor business men. At the risk of an imputation of egotism, (which I should be sorry to elicit,) I will state, I am certain that nothing short of eminent inventive ability combined with mechanical skill, both sustained through countless and expensive experiments by *business management* would have insured me success in this vocation. I direct in person, and can perform all parts of the work, and the business.

In the year 1846 my inventions took their place as the best in my own country, and in 1851 they were approved as the best ever seen in London and Paris. The Great Prize Medal of the London Exhibition was awarded me, over all competition.

The only question that seems likely to arise, is in reference to the *cost* of my patent limbs. The price will necessarily depend very much on the number made. Hitherto my *regular* charge has been \$150 per limb, from which, however, a great abatement has been made in all cases to the poor. The cost of making the artificial cannot be estimated by the portion of the natural limb removed.

A perfect appliance for the *Chopart*, *Syme*, or *Pirogoff* operation, one that shall be *useful* and *durable*, will cost as much as the full-length limb. My recent inventions to meet the requirements of these operations, as also for limbs shortened in the leg or thigh, are of great value. The nature of the defect

is wholly concealed by their use. If the leg to be applied below the knee requires an auxiliary artificial joint, with a socket above the knee, (as is usually the case,) the cost is quite as great as to furnish one for a thigh amputation.

Mr. Gray, in London, (the only man who has a reputation there as a limb-maker,) charges *uniformly thirty guineas* (above \$150) *for a limb. He will not take less*, and the indigent must purchase an inferior limb.

You will not fail to see the importance of having the limbs supplied by a person who is *regularly in the profession*. You will be aware, also, of the importance of having them supplied by one who will *feel the responsibility devolved on him by so important a trust*, and who will have permanent institutions at convenient distances, to which the mutilated can repair for such after-treatment as will be necessary in all cases.

The best mechanical appliance must wear out in time, and in this peculiar profession, it has been clearly demonstrated that the matter of attention subsequent to the original fitting of a limb is of quite as much importance to the unfortunate as the securing of a good limb in the first instance. An inferior workman cannot suitably repair a superior limb.

Anticipating great demand, I built a large manufactory on Chestnut Street, Philadelphia, in the year 1860. It contains thirty rooms for my professional uses. In New York city, I have recently opened capacious rooms, and I have in Boston a large house, under the immediate charge of my only partner, Mr. Richardson. I have offices in Cincinnati, Chicago, St. Louis, New Orleans, San Francisco, &c., &c., and am willing to open an establishment in Washington or elsewhere, as you may deem proper. I have in my employ the best mechanicians in the country. They have all been for many years (ten to seventeen years) in my employ. I have materials of the best kind in readiness to construct three thousand patent limbs in the shortest time possible. The materials of which the principal parts of the limbs are composed, were prepared *three years ago*, and have been kept in a dry-house with as much care as the piano-forte manufacturer prepares and saves his stock; without such materials, a *perfect artificial limb cannot be made*.

One matter of importance I must not fail to allude to, especially as I am informed that one of my Patent Legs has already

been placed in your possession. I was not until this morning aware of the fact, and do not know who has furnished the specimen. It may be that some friend of mine has presented it *in my name, and on my behalf*. If this be *not* the case, the making and presenting of the limb, if done with a design to secure orders for limbs for the United States troops, as I suppose it must have been, is a *gross fraud*.

I have authorized no person whomsoever to sell my Patent Limbs, under the Patent "Extension," except William H. Richardson, Esq., of Boston, who, by agreement with me since the "Extension" was obtained, has an undivided interest in the right, as a member of the Firm of *Palmer & Co.*, of Boston. Mr. R. and myself are acting in perfect harmony; but other persons (whom I suspect in this case) are *violating the law*, and, at the same time, producing *very imperfect imitations of my Invention*. I am proceeding at law against several such persons.

It is the custom to send a long array of influential names attached to a paper of this kind, and, more particularly because I have not the pleasure of a personal acquaintance with yourself, I should have followed in the way most usually practised, had it not been for the letter of the Rev. H. W. Bellows, D.D., the receipt and perusal of which, a few days since, caused me to believe such a course to be wholly unnecessary. I have before alluded to the letter. Let me call special attention to the terms he employs:

"UNITED STATES SANITARY COMMISSION,
"ADAMS HOUSE, 244 F STREET, WASHINGTON, D. C.,
"July 20, 1862.

(WALPOLE, N. H.)

"B. F. PALMER, ESQ.

"DEAR SIR: Your favor of the 17th instant came duly to hand. I believe there is no real doubt, and very little question among competent judges, that your Artificial Leg is the very best in the world. One of the very best surgeons in this or any country, Dr. Van Buren, so assures me; and a still more decisive authority, the *public*, who has so extensively tried the Leg, has pronounced in its favor. My personal judgment is worthless in this case, but I am glad to believe that the credit and honor of having invented this humane instrument belong to a son of New Hampshire. I dare say many of her brave

sons will owe their power still to climb her breezy hills to your skill after this maiming war is over. I see nothing but a large harvest of profit for you after the harvest of glory for our crippled heroes has been sown, who will so many of them leave their limbs to fatten and re-consecrate the rebellious soil of Secessia.

"What influence can you ask or ought you to desire, beyond the recognized merit of your Artificial Leg to give it currency? Doubtless the benevolence of every considerable town will prompt it to furnish any halt and one-legged soldiers belonging to it with your '*Leg*,' if Congress should fail to supply them. At any rate, it is neither the custom nor the duty of the Sanitary Commission to turn its influence to the promotion of personal advantage. Your '*Leg*' does not need *our* recommendation; and we have neither disposition nor power to abuse our position, by attempting to influence legislation for the benefit of any individual. I have no advice to give you, except to *advertise* your Leg in the largest way. Nothing else can be necessary to give it a *sale* quite co-extensive with its superlative merits.

"With the best will towards you and your success,

"I am very truly yours,

"H. W. BELLOWS."

Allow me to present a single letter, from one of the most distinguished surgeons of London.

"BERKLEY STREET, BERKLEY SQUARE, LONDON,

"September 30, 1851.

"B. FRANK. PALMER, ESQ.

"SIR: I have no hesitation in stating that I consider your Patent Artificial Leg to be the best invention I have yet seen; the most useful and the least distinguishable from the natural limb.

"I am, sir, your very obedient servant,

"G. J. GUTHRIE."

I have the satisfaction of knowing that my Patent Limbs, models of which I presented to the *Société de Chirurgie* of

Paris, in the year 1851, have recently been reported upon by that distinguished Society as the "best" presented.

In this country, you will notice, I have the certificates of the principal surgeons in civil practice, which I publish in my Pamphlet. No higher credentials could be obtained.

Of late there has been an attempt to divert the attention of surgeons and the mutilated, and as efforts may be made to secure the Government patronage by many incompetent persons, *I would respectfully suggest the propriety of your calling a meeting of all applicants to compare specimens of limbs and prices.*

I am not disposed to make the necessity of my fellow-creatures, who fall (mutilated) in the noblest struggle in which a people ever engaged, my opportunity of great gain. I have given limbs to several of our brave soldiers (already amounting to \$1000), and shall continue so to do in cases of extreme inability, till I shall have given one hundred limbs to the troops. To convince you of the good faith in which I make this statement, I now, without any assurance of your patronage, propose to receive twenty-five mutilated soldiers to treat at my own expense. You are at liberty to send them to me at the rate of two each week, commencing at your convenience. I desire to serve my country in *some* capacity, and this seems to be the way in which I can render the best service.

I have for ten years had the patronage of the United States Military Asylum at Washington, and have received from the treasurer of that institution, Benjamin King, M.D., surgeon U. S. A., the sum of one hundred dollars, uniformly, for each limb.

If the price named is deemed objectionable, I will modify it to any extent that may be *possible*.

I have taken the liberty to send this day (by Adams' Express) to your address, a small model of my Patent Leg. It is just such a leg as I make for use. The specimen I send, though very small and light, is capable of sustaining a weight of 200 lbs. in *constant use*. I will send a model of the Leg to be applied *below the knee* if you desire it, also a model of the "PALMER HAND" and "ARM," for each of which I hold the exclusive right by patent.

I am certain that no other person has a similar stock, or suitable facilities for supplying limbs in large numbers and

of so good quality, and will sum up the matter as follows, viz.:

1st. *A good Artificial Limb only* will benefit the mutilated soldier.

2d. A good substitute can be made *only by a man regularly in the business, and who has had great experience in it.*

3d. About four thousand "*Palmer Limbs*" have been made at my Studios in Philadelphia, New York, and Boston. They are worn by persons in every position and condition of life. They have raised hundreds from pauperism to positions of respectability and usefulness. So *durable* have they proved, that many of the Limbs made in the year 1846, and from then to 1850, are now in successful use, the cost of repairs having been but trifling in from twelve to *seventeen years*. The fact of *their utility and durability is thus established.*

In view of the great utility and durability of my Patent Limbs, I conclude that they are most *economical*, as well as *most comfortable and satisfactory to the mutilated*, and that the furnishing of our brave soldiers with such compensatory aids; would be promotive of the national good and of much individual happiness.

All of which is respectfully submitted by your

Very obedient servant,

B. FRANK. PALMER.

PHILADELPHIA, 11th August, 1862.

SURGEON-GENERAL'S OFFICE,

WASHINGTON CITY, D. C.,

August 17th, 1862.

SIR:

The Surgeon-General desires to inform you that on the 20th instant, in New York city, he will assemble a Board, under the presidency of Dr. Mott, to examine into the merits of the different *leg and arm patents*.

The Surgeon-General advises you to submit to the same Board your application.

Very respectfully, your obedient servant,

J. HINTON,

Secretary.

B. F. PALMER, ESQ.

REPLY OF THE CHIEF OF THE BUREAU.

NAVY DEPARTMENT,
BUREAU OF MEDICINE AND SURGERY,
August 16, 1862.

SIR :

I have to acknowledge the receipt of your communication of the 11th inst., through Surgeon William Johnson of the Naval Asylum, Philadelphia, with inclosures "in reference to the matter of supplying the mutilated of the Federal Army with the Palmer Artificial Leg."

I beg leave to observe, that as the Surgeon-General is about to appoint a board of distinguished medical men, both from civil life and the army, to decide upon the kind of artificial limbs to be procured, I shall take no action in the matter till the report of this Board is received.

Very respectfully,

Your obedient servant,

W. WHELAN.

B. FRANK. PALMER, ESQ.

The Board organized on the 20th of August, requested specimens to be presented on the 27th. and adjourned.

At the adjourned meeting I presented the following letters, and appeared personally before the Board with several distinguished gentlemen, who have worn my Patent Limbs from the very commencement of the business.

OFFICE OF THE PALMER ARM AND LEG,
PHILADA., Aug. 27, 1862.

TO VALENTINE MOTT, M.D.,

President, and other Surgeons of the Board convened in
New York City this day, to examine Artificial Limbs, &c.

GENTLEMEN: In compliance with your request, I have the honor to submit herewith, a proposition for supplying my Patent Artificial Limbs for the United States troops.

In doing so, allow me to call your attention to the considerations which actuate me in this important matter; and if my hastily-drawn statements are not entirely plain or satisfactory, attribute the want of systematic arrangement, or perspicuity, to the limited time I have at command to devote to the task.

You request me to present a statement of prices at which I will supply the "Palmer Limbs" in cases of amputation *above* and *below* the knee, also the price for the simple "peg."

I will first notice the "peg" as briefly as possible, giving my reasons for begging that you will not entertain the idea of purchasing that barbarous *prop*, which I cannot rightfully term an "artificial leg." The appropriation made by Congress was for the purchase of "Artificial Limbs," and I am convinced that the Board of eminent Surgeons to whom the subject is referred, will be happy to find in the design of Congress, and in the view of the Surgeon-General, nothing to conflict with their desire to recommend the best limb, by whomsoever made.

The old "point of election," a hand's breadth below the knee, was established by the great and beneficent Ambrose Paré, to meet the requirements of the "peg," that being the *only* useful substitute known at the time. In fact, a Captain Clerk, whose limb, mutilated in battle, the great surgeon had amputated at the *lower third*, hoping to find some compensatory aid in such a case, which sound judgment would seem to warrant, decided on a *secondary amputation* to remove the *long, protruding stump*; or, to use the expression of Paré, to enable Captain Clerk to appear with "*two legs instead of three*."

The point of election has at length been changed back in accordance with the original view of Paré, *to the lower third*, on the introduction of a suitable artificial limb, and I am happy to know that the practice of surgeons in this country, also in England and France, is now such that the "peg" is no longer applicable; certain it is that the "point of election" will never again be carried upward, towards the trunk, in general practice; hence the "peg" will be admissible in but few cases of amputation below the knee, if it shall be adopted in any.

I submit to you the substance of a letter which I recently addressed to the Surgeon-General, and to which I received a reply, requesting me to present my application to the Board I now have the honor to address. (Here followed the letter.)

Allow me to add here, that I have perfected my inventions for the stumps made by Syme's and Pirogoff's, and all similar operations; also for limbs shortened by hip disease, or otherwise.

For ten years I have had the patronage of the U. S. Military

Asylum, at Washington, and have received from the Treasurer of that Institution, Benjamin King, M.D., Surgeon U. S. A., the sum of one hundred dollars uniformly for each limb. I now desire to serve my country in *some* capacity, and will, therefore, attempt to make the greatest number of my Patent Limbs possible for the small amount of the appropriation by Congress (\$15,000), and to accomplish this end, now tender as a gift to the mutilated, the Patent Right to use as many of the limbs as I can make perfectly for the amount. I also offer my personal services, free of charge, as Director of the establishment for adjusting the same. I will render to this Board, and to the Surgeon-General, an account of the cost of making the limbs, and abide your decision in the whole matter. In this way the cost will be reduced to the utmost limit, and competent judges will have full cognizance of the accounts, and of the manufacture of the limbs.

Respectfully submitted by your

Very obedient servant,

B. FRANK. PALMER.

Boston, August 25th, 1862.

SURGEON-GENERAL WILLIAM A. HAMMOND.

SIR: Understanding that, by a recent act of Congress, a sum has been appropriated for the purpose of supplying wounded soldiers with Artificial Limbs, and having had a large experience for many years among my patients, in obtaining substitutes for their amputated limbs, I take the liberty to suggest that the establishment of Palmer & Co., which I have always employed, may be authorized to furnish them.

It is due, I think, to MR. PALMER, as the original inventor, to have this preference over all other manufacturers, theirs being but imitations of his ingenious contrivance.

A brother of mine* wore an artificial leg for *forty years*, supplied at times by a variety of persons; among them was the Anglesey Leg, which he imported from England, but he always gave the preference to Palmer's, as the only one he wore with ease.

I hope the practical utility of this valuable invention, which

* Major Townsend, U. S. A.

has been tested for so many years, may entitle Palmer & Co. to the preference.

Respectfully,

S. D. TOWNSEND,

Senior Surgeon Massachusetts General Hospital.

MASSACHUSETTS GENERAL HOSPITAL,

Boston, August 23d, 1862.

SIR: At the request of Palmer & Co., of Boston, I make the following statement.

All artificial limbs, other than simple pegs or stumps, which have been furnished by the Massachusetts General Hospital for many years, have been ordered of, and made by Palmer & Co., *because we believe theirs the best manufactured.*

In my opinion, Palmer & Co. are the only makers in the New England States who can supply crippled soldiers with substantial Artificial Legs at a moderate cost.

1st. Because their manufactory is located in Boston, through which city most New England men pass, or with which they have easy and frequent communication, a point of very considerable importance in fitting the limb and keeping it in repair.

2d. Because Palmer & Co. have facilities for extending their business with little outlay; because their credit is good, and they have the confidence of the community.

3d. On account of the promptness with which the Leg can be made and delivered, with the certainty of a fit and aptness for immediate use.

4th. On account of its substantial character,—for use by mechanics, and even some classes of laboring men.

Yours, very respectfully,

BENJAMIN S. SHAW,

Resident Physician and Superintendent.

TO SURGEON-GENERAL HAMMOND.

Cordially indorsed by

WM. J. DALE,

Surgeon-General of Massachusetts.

NOTE.—To be able to present such letters as the above, with such an indorsement, affords me more than ordinary pleasure. This is the first hospital in which I appeared with my invention. I had the honor to be welcomed to this noble institution in the year 1846, by the eminent and venerable John C. Warren, whose patronage I received till his great surgical labors were ended; since which time I have been equally honored by his distinguished son, the present eminent surgeon of Boston.

B. F. P.

Boston, August 24th, 1862.

TO SURGEON-GENERAL W. A. HAMMOND.

SIR: Having been applied to by the Agent of the Palmer Leg for an opinion respecting its merits, and for a recommendation to yourself that that portion of the fund appropriated by Congress for the purchase of Artificial Limbs, which may belong to the New England States, should be applied to the purchase of the "Palmer Artificial Leg," I desire to express a high opinion of its merits and *strongly to advise its adoption*.

I have been familiar with the details of its make and mechanism for many years, having, as a member of a committee, awarded to it a gold medal soon after its invention, and having also introduced Mr. Palmer to some of the London surgeons at St. Bartholomew's, in 1851, where the Limb received their unqualified approbation.

The Limb was a very great improvement upon any previous contrivance of the sort. It contained many new features, its make being very light and substantial, and its mechanism very near perfection.

The experience of a *dozen years* has not modified in any way this opinion then expressed by me, and I know of no limb since made that equals it.

I hope that our maimed New England soldiers may be fortunate enough to be supplied with it.

I have the honor to be,

Respectfully, your obedient servant,

HENRY J. BIGELOW,

Professor of Surgery in Harvard University, and one of the
Surgeons of the Massachusetts General Hospital.

NOTE.—My object, in presenting the letters of these eminent surgeons, was to convince the Board that New England soldiers could be properly treated in Boston. I also desired to present the evidence of surgeons of so great eminence, who had been familiar with my *personal* efforts and successes, from the time when I first presented my Inventions to the public. These statements will refute the unjust assumptions of *piratical copyists*, who appeared before the Board with bad and fraudulent imitations of my Inventions, all of which are secured by Letters Patent.

B. F. P.

TESTIMONY

OF A HUNDRED SURGEONS.

THE following testimonials of eminent surgeons were submitted to the Board convened by the Surgeon-General, in New York, August 20th, 1862.

SURGEONS OF LONDON.

LETTER OF THE GREAT ARMY SURGEON, G. J. GUTHRIE,
Ex-President of the Royal College of Surgeons, London.

BERKLEY STREET, BERKLEY SQUARE, LONDON,
September 30, 1851.

B. FRANK. PALMER, Esq.

SIR: I have no hesitation in stating that I consider your Patent Artificial Leg to be the best invention I have yet seen; the most useful and the least distinguishable from the natural limb.

I am, sir, your very obedient servant,
G. J. GUTHRIE.

Indorsed by—

Sir BENJAMIN BRODIE, Bart.	B. B. COOPER, Esq., Surgeon to St.
Prof. FERGUSSON, Surg. to the Queen.	George's Hospital.
WM. LAWRENCE, F.R.S., Surgeon to	F. SKEY, Esq., Dem. of Anat., St.
St. Bartholomew's Hospital.	Bartholomew's Hospital.
EDWARD STANLEY, Esq., Surgeon	CÆSAR HAWKINS, Esq.
to St. Bartholomew's Hospital.	JOSEPH H. GREEN, Esq., F.R.S.
Mr. CAMERON, Surgeon to the Mar-	THOS. WAKLEY, Esq., Ed. <i>Lancet</i> .
quis of Anglesey.	Sir D. BREWSTER.
Dr. FORBES.	Mr. LUKE.
SAMUEL SOLLY, Esq.	I. W. TURNER, F.R.S.
J. HILTON, Esq.	Dr. J. M. ARNOTT.
J. B. CURLING, Esq., Surgeon to the	Mr. SHAW, Surg. to Middlesex Hos-
London Hospital.	pital,

And many other surgeons in London of great distinction.

LETTERS FROM PROF. SYME.

ROYAL COLLEGE OF SURGEONS, EDINBURGH,
10th July, 1852.

DEAR SIRs: I have the highest opinion of the "Palmer Leg," and shall be very happy if you can extend the benefit of it to Mr. Hixson.

Very truly,

JAS. SYME.

MESSRS. PALMER & Co.

EDINBURGH, 26th December, 1852.

DEAR SIRs: The merits of the "Palmer Leg" are so generally admitted, that I presume my opinion is wished in regard to the *particular modification of it* which was lately supplied to a patient of mine who had suffered amputation. Nothing could be more satisfactory than the ingenious contrivance for the purpose, and I therefore have great pleasure in bearing this testimony.

Yours, truly,

JAS. SYME.

MESSRS. PALMER & Co.

COLLEGE OF MILITARY SURGERY, DUBLIN,
May 26th, 1856.

TO MESSRS. PALMER & Co.

GENTLEMEN: I have to acknowledge the receipt of the model of the Artificial Limb forwarded by you to the Military Surgeons' Museum, and to say that *I have never inspected* more beautiful work. I do not think any improvement can be made upon it. It has been universally admired by medical men.

Very faithfully yours,

JOLIFFE TUFNELL,

Regius Professor of Military Surgery, Dublin.

SURGEONS OF PARIS.

By invitation of M. ROUX and M. LALLEMAND, (Jurors of the World's Exhibition in London,) the inventor visited Paris, where he was invited to go before the Société de Chirurgie with the Palmer Leg. The invention was received with an acclamation of approval, by such renowned Surgeons as BARON LARREY, M. VELPEAU, M. DEBOUT, and the world-renowned ROUX, for forty years Chief Surgeon to the Hôtel Dieu.

SOCIÉTÉ DE CHIRURGIE, OF PARIS.

This Society had the Palmer Leg under examination for ten years. M. Debout is Secretary of the Society, and Chairman of the Committee of Investigation. The Report will be found in the following pages.

LETTER OF M. DEBOUT.

Bulletin Général de Thérapeutique, Médicale et Chirurgicale.

(Translation.)

PARIS, 15 MAY, 1855.

MESSRS. PALMER & Co., London.

GENTLEMEN: Of all the apparatus sent for examination, yours excels in form, lightness, and the simplicity of its mechanism.

I have desired Dr. Deville to examine, for me, the various forms of amputated limbs in London, and especially those removed at the *lower third of the leg*. The influence which this honorable *confrère* exerts here will make his testimony valuable, added to my own.

Will you furnish him this information, and accompany him in his visits, in order to expedite them? *Without this knowledge it is impossible to make the report on amputations.*

Judge Choiselat, of Meaux, walks *marvellously*. He recently walked three miles without any assistance, and with little fatigue. This gentleman has offered to come before the Society of Surgeons, with his surgeon, who is a correspondent of the Association, and to testify *by his success* to the adaptability of your invention to the *upper third* of the leg.*

Accept, gentlemen, the assurance of my distinguished consideration.

DEBOUT.

* Judge Choiselat had both legs amputated three inches below his knees.

SURGEONS OF NEW YORK.

NEW YORK, January 29th, 1851.

I have examined carefully the Artificial Leg invented by Mr. B. Frank. Palmer, of this country. Its construction is simple, and its execution is beautiful; and, what is most important, those who have the misfortune to require a substitute for the natural limb, and the good fortune to possess it, all concur in bearing practical testimony to its superiority in comfort and utility.

VALENTINE MOTT,

Professor of Surgery in the New York University.

NEW YORK, January 29th, 1851.

I have seen several of the Artificial Legs manufactured by Mr. B. F. Palmer in use, and consider them superior to any with which I am acquainted.

WILLARD PARKER, M.D.,

Professor of Surgery in the College of Physicians and Surgeons, New York.

U. S. NAVAL HOSPITAL, NEW YORK,

February 7, 1852.

MESSRS. B. F. PALMER & Co.

GENTLEMEN: I have carefully examined an Artificial Leg of your construction, and have compared it with specimens of other manufacturers. Your Limb exhibits great superiority, both in plan and finish, and I think it leaves nothing to be desired in the way of improvement.

B. F. BACHE,

Surgeon U. S. N.

NEW YORK, April 12th, 1853.

I give my unqualified testimony as to its superior merits over all other inventions of the kind. I invariably recommend it to the patients upon whom I have operated in private practice, and have also recommended the State Commissioners of Emigration to supply their patients who have been operated upon in their hospitals with this most excellent substitute for the amputated limb.

J. M. CARNOCHAN, M.D.,

Professor of Surgery in the New York Medical College,
Chief Surgeon to the State Emigrant's Hospital.

MESSRS PALMER & Co.

GENTLEMEN: I shall be happy to permit you to refer to me in reference to your Artificial Limbs; since, during several years, I have been accustomed to direct my patients to you, and no one has expressed to me dissatisfaction. I believe them to be the best now in use.

With sentiments of esteem,

I remain truly yours,

FRANK H. HAMILTON, M.D.,

Prof. Surgery, Med. Department, University of Buffalo,
Brigade Surgeon U. S. A.

NEW YORK, March 24th, 1859

I have employed the Artificial Leg of Messrs. Palmer & Co. in several cases of amputation, and believe it to be the best at present in use.

WM. H. VAN BUREN, M.D.,

Prof. of Anatomy, University of New York,
Surgeon to the New York Hospital.

NO. 2 IRVING PLACE, NEW YORK,
April 4th, 1859.

I have for many years advised the use of the Messrs. Palmer & Co.'s Artificial Limbs in cases of amputation, both by my private and hospital patients, and believe them to be the best at present in use.

JAMES R. WOOD, M.D.,

Surgeon to Bellevue Hospital, &c.

NEW YORK, March 17th, 1859.

I have long been familiar with the practical working of Messrs. Palmer & Co.'s Artificial Limbs, and believe that they combine all the advantages that human ingenuity has yet devised for the relief of the maimed.

STEPHEN SMITH, M.D.,

Surgeon to Bellevue Hospital.

ALBANY, March 9th, 1854.

MESSRS. PALMER & Co.

From what I have seen, and from the testimony of those who have used your work, I do not now hesitate, nor have I done so for several years past, to recommend my patients who have been so unfortunate as to lose a limb, to call on your firm for a substitute.

ALDEN MARCH, M.D.,

President and Prof. Surgery and Operating Surgeon,
Albany Medical College.

MY DEAR SIR: I have examined with great care, the Artificial Limb of B. F. Palmer, which you have prepared for my patient. It is admirably fitted, beautifully finished, and its adaptation and use are, in the highest degree, satisfactory. It is superior to any artificial limb I have ever seen.

I am, very respectfully, yours,

J. H. ARMSBY,

Professor of Anatomy, Albany Medical College.

NEW YORK, February, 1859.

I have pleasure in giving my testimony in favor of Mr. B. F. Palmer's Artificial Leg. I have often seen its application and use, and particularly in one instance, on a patient of mine whose leg I amputated. It answered the purpose most effectually, and gave her the greatest satisfaction. I cheerfully recommend it to all who stand in need of such appliances.

CHARLES D. SMITH, M.D.,

Surgeon to Bellevue Hospital, New York.

NO. 4 EAST SEVENTEENTH STREET, NEW YORK,

March 28th, 1859.

I have been in the habit of using Palmer's Artificial Limbs for many years, and I consider them a most admirable invention. They have given uniform satisfaction to my patients, both in the comfort of their wear, and the perfection of their mechanical action.

T. M. MARKOE, M.D.,

Surgeon to New York Hospital.

March 28th, 1859.

We take great pleasure in adding our unequivocal approval of the scientific principles upon which these limbs are constructed, and their great superiority over all similar artificial appliances.

DANIEL AYRES, M.D.,

LOUIS BAUER, M.D.,

Surgeons of Long Island College Hospital, Brooklyn.

LOCKPORT, N. Y., August 14th, 1856.

MESSRS. PALMER & Co.

DEAR SIR: It gives me pleasure to say my sister has worn one of Palmer's Artificial Legs, applied by you, with entire satisfaction. She walks without a cane, and her deformity is hardly perceptible.

I cheerfully recommend it to all who need an artificial leg, knowing that their expectations will be more than realized.

Respectfully,

M. S. KITTENGER, M.D.,

Surgeon U. S. A.

GENEVA, N. Y., October 31st, 1858.

MESSRS. PALMER & Co.

GENTLEMEN: I have used artificial legs of almost every device during the past twenty-five years; and during the past eleven years, I have used one of Palmer's Artificial Legs with the greatest comfort and usefulness.

From my own personal experience and observation, as well as the invariable expressions of the highest satisfaction, which the numerous patients have made, when I have sent to you for substitutes, I believe your limbs to be the best appliances ever invented for the loss of the natural leg.

Yours, very sincerely and truly,

H. A. POTTER, M.D.,

Surgeon U. S. A.

MESSRS. PALMER & Co.

DEAR SIR: Your Artificial Leg is a triumph of artistic skill; and the award which it received at the Great Industrial Exhibition in London was no more than a just tribute to the inventive genius and mechanical talents of Mr. Palmer. It would be hazardous to say, whether any superior construction of apparatus, for so beneficent an end, will be effected. But the best praise you can receive is the entire approbation of all who have adopted your most ingenious and admirable invention.

JOHN W. FRANCIS, M.D.

SURGEONS OF PHILADELPHIA.

JEFFERSON MEDICAL COLLEGE.

PHILADELPHIA, March 27th, 1851.

I have examined, with great care, the Artificial Leg invented by Mr. B. F. Palmer, and do not hesitate to recommend it in the *strongest terms*. It is used by my patients with entire satisfaction.

THOMAS D. MÜTTER, M.D.,

Professor of Surgery in the Jefferson College, Philadelphia.

UNIVERSITY OF PENNSYLVANIA.

PHILADELPHIA, January 23d, 1851.

I have examined, carefully, the Artificial Leg invented by Mr. Palmer, and have formed a very favorable opinion of its construction. I have also advised my patients to obtain it.

W. GIBSON, M.D.,

Professor of Surgery in the University of Pennsylvania.

THE PALMER ARM.

PHILADELPHIA, December 14th, 1858.

B. FRANK. PALMER, ESQ., ETC.

MY DEAR SIR: I am really very much gratified to find that your ingenuity and perseverance have at length accomplished what the profession has so long waited for in vain,—a *useful Artificial Hand and Arm*. The models you showed me the other day appear to accomplish every indication, and are worthy companions of your *unequalled* “Artificial Legs.” After many years’ observation of the latter, I am compelled to repeat what I have already expressed in writing, that neither in Europe nor America is there an instrument of the kind, in my judgment at least, worthy of comparison with them.

Trusting that you will continue your efforts to relieve your afflicted fellow-creatures,

I remain very sincerely yours,

THOMAS D. MÜTTER,

Emeritus Professor of Surgery Jefferson Med. College, Philadelphia.

SURGEONS OF BOSTON IN 1849.

BOSTON, June 12th, 1849.

The undersigned having witnessed the successful use of the Artificial Limbs manufactured by Mr. B. F. Palmer, very gladly recommend them to persons who have suffered the loss of a lower extremity. The very ingenious mechanism which is applied in this invention, produces an imitation of the shape and motion of a living member, much more successful than would seem possible. We recommend them with pleasure and confidence to those who may need such assistance.

J. C. WARREN, J. MASON WARREN, S. D. TOWNSEND,
JACOB BIGELOW, GEO. HAYWARD, D. H. STORER,
Surgeons and Physicians to Massachusetts General Hospital.

SURGEONS OF BOSTON IN 1857.

BOSTON, April 4th, 1857.

B. FRANK. PALMER, ESQ.

DEAR SIR: I am happy to find, by your note to me of the 26th ult., that you intend opening a branch of your establishment for the manufacture of Artificial Limbs in this city.

As Boston furnishes more subjects, probably, than any other part of the State for the use of your substitute, it will remove one obstacle to the poor in obtaining them,—the expense of travelling to Springfield. Hoping soon to hear that you have carried your intention into execution,

I remain your obedient servant, S. D. TOWNSEND,
Surgeon to Massachusetts General Hospital.

18 CHAUNCEY STREET,
April 2d, 1857.

B. FRANK. PALMER, ESQ.

DEAR SIR: With regard to the advantage of Boston as a *centre of trade* in Artificial Limbs, you are a better judge than I.

I do not know any surgeon here who would recommend any Artificial Leg in preference to yours. But there are not a great many legs cut off in Boston annually, and of these you probably see the larger number.

In respect of New England, Boston is doubtless a more accessible and central place than Springfield. Personally, I shall be glad to see you in Boston.

Yours, truly,

HENRY J. BIGELOW,
Professor of Surgery in Harvard University.

Boston, April 3d, 1857.

B. F. PALMER, Esq.

SIR: I with pleasure contribute my testimony to the successful application of your very ingenious artificial limbs, both to patients of my own, and to those of other surgeons of this city.

In answer to your communication, I would say, that if you decide to remove your establishment from Springfield to Boston, you may be confident of receiving the support of the medical profession here.

I am, very respectfully, your obedient servant,

J. MASON WARREN,

Surgeon to Massachusetts Gen. Hospital

Boston, April 3d, 1857.

B. FRANK. PALMER, Esq.

MY DEAR SIR: The recommendation given you by several of the Physicians and Surgeons of this city, in 1849, was offered after a thorough examination of your invention, and a perfect conviction of its excellence.

The opinion of the gentlemen who signed the certificate then given is not hastily formed, nor withdrawn when once expressed.

Rest assured they are now as ready to give you credit for your efforts to relieve physical suffering, and to encourage you to persevere. Most respectfully,

D. HUMPHREYS STORER,

Prof. of Obstet. and Med. Jurisp., Harvard University.

Boston, April 2d, 1857.

B. FRANK. PALMER, Esq.

DEAR SIR: I am very glad to learn, as I did by your letter that I received this morning, that you propose opening a manufactory of artificial limbs in Boston.

You may probably recollect that soon after your invention was made known, I gave a certificate strongly in favor of it. That is many years since, and I can now say, that my subsequent experience has fully justified the opinion I then expressed. I will merely add, that I regard the artificial limbs of your manufacture, *as much superior to any other of which I have any knowledge.*

I remain, very truly, yours,

GEO. HAYWARD,

Surgeon.

ST. LOUIS UNIVERSITY.

January 26th, 1856.

B. FRANK. PALMER, Esq., Philadelphia.

DEAR SIR: Your beautiful and valuable present has just arrived. I need not say that I thank you most heartily for it. Whenever occasion offers, be assured that I shall not fail to recommend it strongly. A beautiful and admirable mechanism, it perfectly fulfils its purposes, and is unquestionably the best artificial leg yet produced.

With renewed thanks, I am yours, most respectfully,

CHAS. A. POPE,

Ex-President National Med. Association.

LOUISVILLE UNIVERSITY.

February 3d, 1856.

B. F. PALMER, Esq.

DEAR SIR: Sickness has prevented me from acknowledging the receipt of your letter of the 18th ultimo at an earlier period, and from thanking you in behalf of my colleagues for your very acceptable present. The artificial leg is a beautiful specimen of mechanism, well deserving the encomium that has been bestowed upon it by the surgeons of this country and of Europe. I exhibited it to my class a few weeks ago, and shall see that an appropriate place is assigned to it in our museum.

I am, dear sir, very respectfully,

Your friend and obd't servant,

S. D. GROSS,

Professor of Surgery.

STARLING MEDICAL COLLEGE.

COLUMBUS, OHIO, September 6th, 1856.

B. F. PALMER, Esq., Philadelphia.

DEAR SIR: The box containing your beautiful Model Artificial Leg was duly received. I embrace this opportunity, in behalf of my colleagues, to return to you our grateful acknowledgments for the favor, and to assure you that we will in every way within our power aid you in your efforts to supply those who have unfortunately lost their limbs, with your invaluable and unrivalled substitute. Very respectfully,

J. W. HAMILTON,

Prof. Surg. in Starling Med. Col.

SURGEONS OF BALTIMORE.

BALTIMORE, October, 1852.

The Artificial Leg of Mr. B. F. Palmer, is by far the best that has fallen under our observation, and worthy of the highest commendation.

N. R. SMITH, M.D.,
 Prof. of Surgery,
 WILLIAM K. KEMP, M.D.,
 L. MACKALL, M.D.,
 CHARLES FRICK, M.D.,
 C. A. HARRIS, M.D.,
 WILLIAM PRATT, M.D.

SURGEONS AND PHYSICIANS OF SPRINGFIELD.

June 15th, 1849.

Palmer's Artificial Leg is, beyond a doubt, vastly superior to any that has preceded it in Europe and America; indeed, so perfect is its adaptation to the purpose for which it was intended, that there seems to be no room left for improvement. It differs widely from all others that have gone before it, in its mechanism and utility.

ALFRED LAMBERT, M.D.,
 R. G. W. ENGLISH, M.D.,
 EDWIN SEEGER, M.D.,
 JEFFERSON CHURCH, M.D.,
 JAS. M. SMITH, M.D.,
 N. ADAMS, M.D.

SPRINGFIELD, MASS., April 29th, 1855.

MY DEAR DOCTOR: I am free to say of Palmer's Artificial Leg that, from twenty years' observation, I have never seen anything to equal it as a remedy for surgical deformities. Indeed, I know not what there is left in the science of mechanics, that can be made applicable for the uses to which this leg is applied.

To my mind, there is no other artificial limb entitled to a trial even; and, in fine, I regard it as the *ne plus ultra* of artificial limbs.

I am, sir, very truly yours,

C. C. CHAFFEE, M.D., M.C.

SURGEONS OF NEW HAVEN AND HARTFORD, CONNECTICUT.

We have had the opportunity of witnessing the operation of Palmer's Artificial Leg in several cases, and do not hesitate to recommend it in preference to all others with which we are acquainted.

J. KNIGHT, M.D.,

Prof. of Surgery, Med. Inst. Yale College.

P. A. JEWETT, M.D.,

Phys. & Surg. Gen. Hospital Soc.

YALE MEDICAL COLLEGE.

NEW HAVEN, December 12th, 1858.

DEAR SIR: In behalf of my colleagues, I take pleasure in acknowledging the receipt of the beautiful model of one of your Artificial Legs. Please accept our thanks for the same. Among all the so-called improvements, I have yet seen none to compare with those you manufacture. Indeed, I look upon it as being perfect as can be. Yours very truly,

P. A. JEWETT.

HARTFORD, March 11, 1859.

MESSRS. PALMER & Co.

GENTLEMEN: Having had frequent opportunities of testing the working of your admirable Artificial Leg, we cheerfully recommend it to all who may require such assistance, believing that no mechanical contrivance for the purpose can be found equal to it in beauty of workmanship or perfection of operation.

P. W. ELLSWORTH, M.D.,

S. B. BERESFORD, M.D.

STARLING MEDICAL COLLEGE, COLUMBUS, OHIO.

I am acquainted with Mr. Palmer, the inventor of the Artificial Leg. I saw his models in the World's Great Exhibition (London, 1851), where they attracted universal admiration, and drew the first prize.

It is the best false leg I have ever seen, and can but please, *perfectly please*, all who are compelled to resort to such an apparatus.

R. L. HOWARD, M.D.,

Professor of Surgery.

UNIVERSITY OF VERMONT.

MESSRS. PALMER & Co.

SIRS: I am happy to inform you that the case of my patient, Mr. Ballard, far exceeds his expectations in utility, and does much better than I expected it would, with so short a stump. Mr. Ballard is the third patient I have sent to you from this State within the past five years, two of whom were residents of Northfield, Mr. King and Mr. Burnham. In each and every case, the artificial appliance has been most satisfactory. I think them superior to anything of the kind I have ever seen. It will always afford me pleasure to send you patients whose necessities require such artificial appliances.

I remain your most obedient servant,

SAMUEL W. THAYER, JR.,

Professor of Anatomy and Physiology, University of Vermont.

MEDICAL COLLEGE OF OHIO.

We are indebted to Mr. Palmer for the Artificial Leg which has won the admiration of the most prominent surgeons in Great Britain, France, and this country. This is certainly one of the greatest triumphs of American ingenuity.

GEORGE C. BLACKMAN, M.D.,

Professor of Surgery, Med. Col. of Ohio,
and Brigade Surgeon, U.S.A.

NAVY DEPARTMENT, WASHINGTON, D. C.

UNITED STATES NAVY DEPARTMENT,

BUREAU OF MEDICINE AND SURGERY.

B. FRANK. PALMER, Esq.

SIR: I have carefully examined the Artificial Leg of your invention, and find that it seems calculated to form an excellent substitute for the natural one, and leaves nothing to be desired by way of improvement.

I am, very respectfully, your obedient servant,

THOMAS HARRIS, M.D.,

Chief of the Bureau.

EXTRACTS FROM SURGICAL WORKS.

From the great French work on Operative Surgery, by

ALF. A. L. M. VELPEAU,

Prof. of Surgical Clinique of the Faculty of Medicine of Paris, Surgeon of the Hospital of La Charité; Member of the Royal Academy of Medicine, of the Institute, &c. Fourth Edition, with Notes and Observations, by VALENTINE MOTT, M.D., Emeritus Professor of Surgery, in the University of New York; and Additions, by GEORGE C. BLACKMAN, M.D., Professor of Surgery, in the Medical College of Ohio.

“Artificial Legs.—After a patient has submitted to an amputation of his limb, he very naturally inquires of the surgeon what is the best substitute he can suggest for him, and we know that this question has often given rise to much perplexity. As to the lower extremity,* we now have it in our power to furnish every desirable information upon this point, and for this we are indebted to Mr. B. Frank. Palmer, the inventor of the artificial leg which has won the admiration of the most prominent surgeons in Great Britain, France, and this country.

“During the Great Exhibition in London, 1851, we had an opportunity of inspecting the large number of artificial limbs there presented, and we know that there was but one opinion as to the vast superiority of Mr. Palmer’s invention to any hitherto offered. In a word, Mr. Palmer bore away the palm, the adjudicators being, among the rest, no less than the distinguished surgeon of *St. Bartholomew’s Hospital*, Mr. William Lawrence, and the renowned veteran of the *Hôtel Dieu*, Roux, recently deceased. We confess that after walking some distance with Mr. Palmer, we did not in the least suspect that he had himself been provided with one of his own artificial limbs, yet such is the fact. This, certainly, is one of the greatest triumphs of American ingenuity.

“We copy from a pamphlet issued by Mr. Palmer, the description of its peculiarities, remarking, at the same time, that through his politeness and liberality, we are enabled to present to the reader an internal view of this beautiful piece of mechanism. We also insert the views of Mr. Palmer, which have special reference to the *comfort* and *usefulness* of the mutilated who may desire to avail themselves of his substitute.”

* The arm not then invented.

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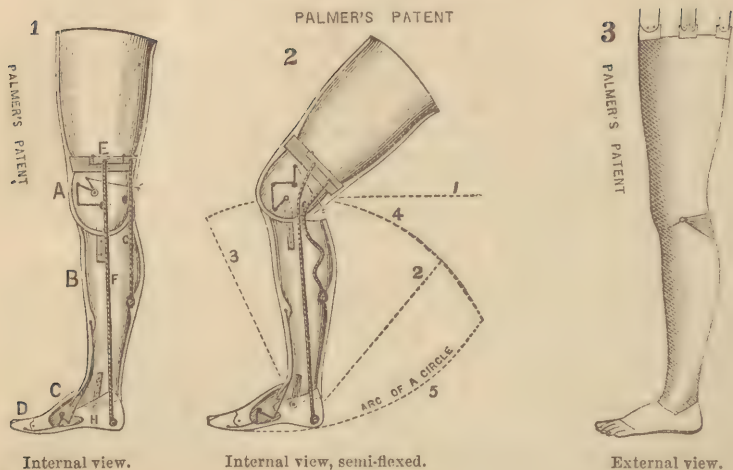
Artificial Legs.—After a patient has submitted to an amputation of his limb, he very naturally inquires of the surgeon what is the best substitute he can suggest for him, and we know that this question has often given rise to much perplexity. As to the lower extremity,* we now have it in our power to furnish every desirable information upon this point, and for this we are indebted to Mr. B. Frank. Palmer, the inventor of the artificial leg which has won the admiration of the most prominent surgeons in Great Britain, France, and this country.

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* The arm not then invented.

FROM VELPEAU'S SURGERY.



The articulations of knee, ankle, and toes, consist of detached ball and socket joints, A, B, C. The knee and ankle are articulated by means of the steel bolts, H, H, combining with plates of steel firmly riveted to the sides of the leg, B, B. To these side plates are immovably fastened the steel bolts H, H. The bolts take bearings in solid wood (properly bushed) across the *entire diameter of the knee and ankle*, being stronger, more reliable and durable than those of the usual construction. All the joints are so constructed that *no two pieces of metal move against each other in the entire limb*. The contact of all broad surfaces is avoided, where motion is required, and thus friction is reduced to the *lowest degree possible*. These joints often perform for many months without need of oil, or any attention,—a desideratum fully appreciated by the wearer.

The tendo Achillis, or heel tendon, F, perfectly imitates the natural one. It is attached to the bridge, E, in the thigh, and, passing down on the back side of the knee bolt, E, is firmly fastened to the heel. It acts through the knee bolt, *on a centre*, when the weight is on the leg, imparting security and firmness to the knee and ankle joints, thus obviating all necessity for *knee-catches*. When the knee bends, in taking a step, this tendon vibrates from the knee bolt to the back side of the thigh, Fig. 2. It descends through the leg, so as to allow the foot to rise above all obstructions, in flexion, and carries the foot down again, in extension of the leg for the next step, so as to take a firm support on the ball of the foot. Nature-like elasticity is thus attained, and all thumping sounds are avoided.

Another tendon, G, of great strength and slight elasticity, arrests the motion of the knee, gently, in walking, thus preventing all disagreeable sound and jarring sensation, and giving requisite elasticity to the knee.

A spring, lever, and tendon, which combine with the knee bolt, give instant extension to the leg when it has been semi-flexed to take a step, and admit of perfect flexion in sitting.

A spring and tendons in the foot, also impart proper and reliable action to the ankle joint and toes. The sole of the foot is made soft, to insure *lightness and elasticity of step*.

The stump receives no weight *on the end*, and is well covered and protected to avoid friction and excoriation.

Fig. 3, is a view of Palmer's perfect model.

AMPUTATIONS.

BY B. FRANK. PALMER,

SURGEON-ARTIST, INVENTOR, ETC., ETC.

FROM VELPEAU'S SURGERY—WITH ADDITIONS.

WHERE AND HOW TO AMPUTATE.

It is obvious that the artificial joints and tendons can never be made to act by mere volition, yet the well-adjusted substitute may be made to respond to the movement of the living member, and it requires no argument to show that the mechanical limb may be moved by *lever power* as readily as the natural one. The stump may be termed a lever, which, aided by auxiliary appendages attached to the thigh or body, moves the false leg. Upon the length and fitness, then, of the stump, depends in a great measure the success in locomotion. The *greatest length possible* should be saved (except when variations of the rule are demanded,) and if the living portion be radically defective in length or flexibility, Art, though it may mitigate the suffering, can never fully supply the deficiency.

Often, in cases which admit of most favorable amputation, (near the ankle,) a most unwarrantable portion of the leg is removed, and not unfrequently the knee is permitted to remain semi-flexed so long as to become incapable either of full flexion or extension, while in *innumerable* instances a healthy joint is found fully flexed and permanently *useless* for want of a little care in healing. Such practice cannot be too strongly reprehended. The best amputation possible is of the *leg*, ten inches below the inferior edge of the patella, though it is always advisable to amputate high enough to secure a good flap, which is very important, as it prevents unpleasant sensations, such as arise from a slight tension of the thin skin, too often found to

be the only covering of a protruding bone. If a stump must necessarily be less than four inches in length *below the knee*, amputate *just below the tuberosity of the fibula*, so that the knee may be flexed, and an artificial joint applied without exhibiting a protruding stump. This rule will apply in amputation for ankylosis of the knee, if the joint be not diseased: should it be extended, however, and stiff, in such case amputate *above the knee*. Perfect use of the knee-joint should always be secured, even if the stump is too short for use in walking.

In amputating the thigh, the condyles of the femur should always be fully removed, but *no greater portion*, unless the safety of the patient demand it.

Amputation at the knee or ankle-joints is objectionable in many respects. In these operations the remaining condyles, or malleoli, give enlargement and unfavorable shape to the end of the stump, and the *extreme* length interferes with a perfect combination of the artificial mechanism. The operation of Chopart is worse for the patient than that above the ankle. Aware of the opposition this opinion will meet, I have not ventured to publish it until able to give the result of experience in treating numerous cases. This operation does not admit of so perfect or so durable a substitute, and the leg is more encumbered than if amputated above the ankle-joint. If removed through the tarsus, and particularly if no more of the bones than the astragalus and calcis remain, the cicatrix is invariably drawn downward by the contraction of the tendo Achillis, and the patient is rarely, if ever, able to support any considerable portion of his weight upon the heel. The support is necessarily upon a socket *inclosing the leg*. The false foot and ankle are less perfect, the tendo Achillis does not perform its function, and an adequate artificial tendon is supplied with great difficulty.

The method of Mr. B. Bell, of amputating *above the knee* when the operation cannot be performed near the ankle, or just *below the calf of the leg*, is very extraordinary and erroneous. The London Lancet has, in a late number, given publicity to an equally objectionable theory, to wit: Amputation of the *leg* should never be performed upon children, but the *lower third of the thigh* unhesitatingly selected; for this important reason, that the amputated limb *ceases to grow* in uniformity

with its fellow, and the patient is doomed to the additional inconvenience of having one knee-joint elevated perhaps some inches above the other, and imparting to his gait a peculiarly grotesque appearance.

The *Lancet* is a potential journal, and to Mr. Wakley I am indebted for acts of personal courtesy while in London; also for an elaborate article upon the Patent Leg. I reluctantly take exceptions to anything published in the *Lancet*, but feel constrained to state, for the benefit of young unfortunates, that the strongest argument that could be adduced in *favor* of amputations *just below the knee-joint*, is found in the fact that the limb *ceases to grow in uniformity with its fellow*; for thus the patient is enabled to support his weight *on the knee*, and, having a space of some inches in which to arrange the perfect artificial knee-joint, I find, in this case, what is inferior only to the *best length possible* below the knee. It is added in the *Lancet*, that, in case an Artificial Leg is to be employed, if an entire third of the leg cannot be saved, it is far more to the advantage of the patient to select the *lower third of the thigh* as a point of amputation. This is certainly a strange and unnatural view, and I am very happy to observe that it is not given as Mr. Wakley's theory, but as the opinion of the manufacturer of the Anglesey Leg, in London. The solution of this most objectionable opinion is found in the fact that, without the benefit of a later mechanical improvement than that of Mr. Potts, the present manufacturer has no adequate arrangement for an operating joint, it requiring, according to the *Lancet*, about five inches for the knee, which elongation of the thigh really *would* present a peculiarly grotesque appearance.

With the present means of adapting a substitute to a flexed knee, so as to give perfect motion to an artificial knee-joint, without perceptible elongation or enlargement of the thigh, I find very great *advantages* in this stump. Amputation *at any point below the knee* is preferable in all cases, if safety in healing may be apprehended, and if there be no abnormal condition of the knee-joint to forbid such an election. If the knee be diseased or ankylosed, and the *joint fully extended*, or only *partially* flexed, in such manner as to *prevent supporting the weight of the body on the knee*, then, indeed, the lower third (or fourth) of the thigh should become the point of election; otherwise, *never*.

The operation for the application of the leg *on the knee* should be so performed as to allow the end of the stump, when flexed, to fall *one inch* back of the thigh, to form a sort of grapple, as it fits the concavity of a socket, by which means the limb may be held securely in its place without any appendages to connect it with the waist or shoulders. The end of the stump is so secure from all pressure (in the hollow of this flexible socket) that use does not produce excoriation or inflammation, and I have, in repeated instances, applied my limb in the JEFFERSON COLLEGE within six weeks after the day of amputation, without any danger of immediate or remote inconvenience to the wearer.

Prof. Syme's operation, at the ankle-joint, is recommended in a recent edition of Miller's Surgery, as furnishing a stump more useful in progression than an amputation above the ankle. This opinion is entertained by many eminent surgeons. I do not recognize all that is claimed for this operation, yet it is preferable to excision of the foot *through the tarsus*, as done by Baudens or Chopart, or removal at any point above the metatarso-tarsal joints, as performed by Lisfranc.

I occasionally have cases of *amputation through the tarsus*, which present well-healed and eminently *useful* stumps. It is the case in Sedillot's modification of Chopart's operation, the cuboid and scaphoid bones remaining, to which the flexor muscles are so well attached as to *counteract* the antagonism of the tendo Achillis, and retain the heel in a position to support the weight. I should observe that these cases are very rare, and that I am almost weekly appealed to by patients who, having suffered this mutilation, find that *careful treatment for years* will not produce a good base of support. The contraction of the gastrocnemii muscles causes such depression of the cicatrized surface that the least attempt at walking keeps up ulceration of the cicatrix, which is often followed by *caries of the bones*. I have taken several such cases to the excellent Jefferson College for amputation *above the ankle*, all of which resulted most favorably. The late Prof. Mütter, also Prof. Pancoast, and Prof. Gross of this College, have done me the honor to adopt these views at an early day.

It is probable that no form of amputation practised within the last century has escaped my notice; and I have, I believe,

examined the work of every leg-maker of any repute on either side of the Atlantic.

I have fitted about 500 limbs to thighs *amputated within three inches of the perinæum*; 1000 to *thighs not more than six inches long*; nearly 600 *upon the knee* (flexed); about 800 to short stumps retaining use of the natural knee-joint; 1000 to *longer stumps* (the best); nearly 500 others, including *several for disarticulation at the knee and ankle-joint, and through the foot*; some of the latter cases retaining only the os calcis, others the astragalus and calcis, others still, a part or all of the bones of the tarsus, and a few retaining the metatarsal bones. I have also made various instruments for congenital deformity and withered limbs.

An ample and well-adjusted *flap* is, in all cases, highly desirable. The double flap, of Liston, is admirably suited to my uses.

In a few cases patients are allowed to support the weight *upon the end of the stump*. Velpeau, Pancoast, Lisfranc, Baudens, and others, cite cases in which it is possible to do this in case of *disarticulation of the knee or ankle*, and I have seen a German, named Gebhardt, who placed the end of his thigh—*amputated above the knee*—upon a cushion of hair in a peg leg, *and thus walked*. Two of my patients, Mr. Moorhead and Mr. Butler, both of this State, having been amputated at the *middle third of the leg*, *can walk in the same manner*; but it would be dangerous *in the extreme* to allow this in active use, as in case of falling, or any *unusual* pressure, the bones might be *forced through the skin*.

The weight of the body is supported by an even pressure around the whole leg, near the knee-joint, if amputated below the knee, and a flexible socket, attached by means of auxiliary side-joints, is laced to the thigh, usually, to enable the patient to graduate the pressure as he finds most proper. It must not reach the body.

If the thigh is amputated, the pressure is adjusted to its conical walls *near the body*, but there must be *no direct pressure against the perinæum*, as excoriation would follow. The *end must be entirely free from all pressure*, as well as in case of application below the knee. The joints of the knee and ankle

should be made perfectly flexible, as soon as cicatrization will admit of full flexion and extension.

The stump should be tightly bandaged for several weeks previous to the application of the new limb, to compress and solidify the cellular substance, and give the stump a conical shape. The joints should be rendered capable of the fullest flexion and extension, and then the patient may walk with much facility at the first attempt, maintaining naturalness and precision of step.

I submit the following, for the surgeon's consideration.

NEW RULES FOR AMPUTATIONS.

PALMER'S PLACES OF ELECTION—LEG AND THIGH.*

1st place of election. *The lower third or fourth of the leg.* Remove the malleoli fully *always*. Flap operation.

2d. The *lowest point possible* between the first place of election and the upper third at which a good *flap* can be made.

3d. *Immediately below the tuberosity of the fibula*, if not practicable to save four inches below the patella *with full use of joint*. Flap operation.

4th. *The lower third of the thigh—ten inches from perinæum.* Always fully remove the condyles of the femur. Flap operation.

5th. *The utmost length possible*, if necessary to amputate above the fourth place of election. Flap operation.

* An article on the various operations of the Foot, as performed by Prof. Syme, Pirogoff, Chopart, and others, also on the new modes of disarticulation at the knee, will be found elsewhere. Several interesting cases in the practice of eminent American, English, and French Surgeons are now on record, in which my Inventions have been employed with great success in repairing such losses; yet there is much to be said *against* these operations, and the Surgeon will act wisely who watches the result of *years' trials on the Patent limbs*. Theory and Practice should not be at irreconcilable variance, and, I regret to state, more has been claimed for these operations, by *ambitious limb-makers*, than their attempts at reparation will warrant.

EXTRACTS.

From the great American "System of Surgery;" by S. D. GROSS, M.D., Professor of Surgery in the Jefferson Medical College, Philadelphia; pp. 647, 648, and 649, Vol. 1.

GREAT improvement has of late years been effected in the construction and adaptation of artificial limbs, and there is reason to believe that the inconvenience and suffering occasioned by their use, are more frequently attributable to the misconduct of the surgeon, than to the want of skill on the part of the manufacturer of the substitute. It has been only within a comparatively recent period that operators have hit upon the correct principles of making good and serviceable stumps. Allanson, nearly three-quarters of a century ago, understood the subject much better than it has been understood since, if we except the last ten or fifteen years. He strongly insisted upon a long and well-shaped stump, and exerted himself with great ability, but in vain, to induce the profession generally to follow his example. The happy changes which have lately been introduced into this department of operative surgery, are, I believe, mainly due to the manufacturers of artificial limbs, who, with an ingenuity and a perseverance worthy of so good a cause, have reduced the whole process to one of principles founded upon the study of anatomy and mechanical philosophy. It would be difficult to conceive of any apparatus more beautiful in its construction, or more admirably adapted to the end proposed, than the artificial substitutes of Mr. Palmer, of this city, who obtained the prize medal at the Great Exhibition in London, in 1851. Combining lightness with strength, and neatness with symmetry, they are worn with great comfort and satisfaction, and are apparently as perfect as any piece of human mechanism of the kind can well be made. The joints, constructed on the principle of the ball and

socket articulation, are situated at the proper points, and their surfaces being well secured, move upon each other with great accuracy and facility, through the intervention of cords, wires, springs and levers, the whole arrangement being a close imita-

Fig. 138.



Palmer's Patent.

tion of the natural muscles and tendons, if not in shape, at least in position and function. The socket is made with special care, neatly fitting the stump in every portion of its extent, and is well padded to prevent friction and excoriation, the pressure being diffused over the entire circumference of the stump, while the extremity of the latter is perfectly free, in the interior of the former. The annexed cut (Fig. 138,) affords an illustration of this apparatus.

To enable the patient to wear his artificial limb with comfort and convenience, it is necessary that he should have a good long stump, well covered, perfectly even, and of proper shape, being neither too square and fleshy on the one hand, nor too thin and conical on the other. A short, thick, ill-formed stump is a great evil, from which the patient can promise himself no good, but which can hardly fail to be a constant source of annoyance and pain, becoming sore and excoriated under the slightest exercise. The duty of the surgeon is, therefore, one of great responsibility, and cannot be discharged without properly weighing, in every instance, the probable consequences of the operation. When he has his choice, his invariable aim should be to make a long stump, so as to afford an abundant leverage and support for the artificial contrivance. In the leg and thigh, its length should not, if possible, be less than nine or ten inches; hence the place of election for the former should be only about from three inches to three inches and a half above the ankle, and for the latter about the same distance above the knee. It is not always by any means, however, in the power of the surgeon to select the point where he might otherwise cut off the limb, and under such circumstances he must be contented in leaving as much substance as he can. If the leg is amputated very high up, the weight of the body may be supported upon the knee, especially

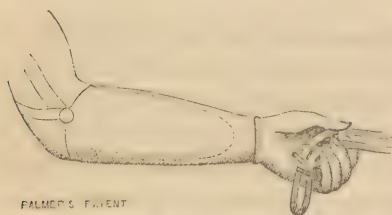
if the patient's social position is such as to prevent him from wearing an expensive substitute, and this will be the more necessary, because it is often very difficult, if not impossible, to preserve the straightness and flexibility of the joint in the event of a very short stump, such being its incessant tendency to retraction and ankylosis. It is for this reason that some surgeons have advised amputation of the thigh just above the knee, when accident or disease interferes with the formation of a suitable stump below, but if we consider the difference in the danger of the two operations, we should hesitate before we give our sanction to such counsel, not forgetting that the risk increases with every inch the nearer we approach the trunk. In amputation of the thigh, the principal pressure of the artificial limb upon the stump is concentrated near the body, but care is taken not to apply any direct pressure to the perinæum, lest it should produce excoriation.

I subjoin Mr. Palmer's instructions for the formation of suitable stumps in amputations of the leg and thigh, as they are now generally acted upon by the more accomplished operators of the country. For the leg, the first place of election is the lower third or fourth of the limb, with flaps, and a thorough removal, of course, of the malleolar projections. Secondly, the lowest point possible between the first place of election, and the upper third, at which a good flap can be formed. Thirdly, immediately below the tuberosity of the tibia, if not practicable to save four inches below the patella, with the full use of the joint.

In amputations of the thigh, the first point of election is the lower third of the limb, so as to give at least ten inches from the perinæum; if performed near to, or at the knee, there must be complete removal of the condyles of the femur. Secondly, if necessary to go above that point, the object should be to save as much of the thigh as possible. In either case, the flap operation makes the best stump for the comfortable use of an artificial limb.

In amputations in children, the development of the limb is always partially arrested, so that, by the time the individual attains his full stature, it will be several inches shorter, as well as thinner, than its fellow of the opposite side. Now, surgeons in applying this knowledge to amputations of the inferior ex-

tremity, have advised that it should never be cut off below the knee, but at the lower third of the thigh, on the ground that, if this precaution be neglected, one knee will ultimately be elevated a considerable distance above the other, thereby imparting to the gait a peculiar, grotesque appearance. Experience, however, has shown that amputation of the leg, even if the stump is only a few inches in length, instead of being an objection, is a decided advantage, the limb thus affording a much longer leverage than when it is cut off through the thigh, for the adaptation of the artificial substitute, the knee joint of which can always be made to correspond in situation with that of the sound limb. Moreover, by adopting this procedure, the weight of the body, provided the stump is not too long, is supported upon the knee, another most important desideratum under such circumstances.



Various attempts have been made to construct artificial hands and arms. Mr. Palmer, after many trials, has at length devised a limb, which in point of neatness and adapt-
edness, leaves hardly anything to be desired on the subject.

Extract from a celebrated English Work on Surgery. By JOHN ERICHSEN, London. American Edition, by JOHN. H. BRINTON, M.D., Surgeon U.S.A. Philadelphia, 1854: p. 86.

The most perfect of all the artificial limbs we now possess, is the one invented by Mr. B. F. Palmer, of Philadelphia. This invention received the PRIZE MEDAL at the World's Exhibition of 1851. It merits the entire confidence of the surgeon.

FIFTY HONORARY AWARDS.

THE WORLD'S GREAT EXHIBITION, LONDON, 1851.

THE JURY HAVE THE HONOR OF SUBMITTING TO HER MAJESTY'S COMMISSIONERS THE FOLLOWING REPORT:

IN THE MECHANICAL COMPENSATION OF LOST PARTS (of the human body,) GREAT SUCCESS HAS BEEN OBTAINED; AND AMONG THE CONTRIVANCES FOR SUPPLYING THE LOSS OF A LOWER LIMB, THE ADMIRABLE MECHANISM OF MR. B. FRANK. PALMER'S ARTIFICIAL LEG (United States, No. 39, p. 1435,) DESERVES PARTICULAR NOTICE. THIS ARTIFICIAL LEG COMBINES LIGHTNESS AND A SUCCESSFUL IMITATION OF THE MOTIONS OF THE JOINTS.*

[PRIZE MEDAL.]

JURORS.

LONDON.	{	JOS. H. GREEN, F.R.S.
		Ex-President of the Royal College of Surgeons.
		WM. LAWRENCE, F.R.S.,
		Pres. Roy. Col. Surg. and Surg. to St. Barth. Hosp.
PARIS.	{	MR. JAMES PHILP,
		Anatomical Mechanician.
		M. ROUX,
		Surgeon (forty years) to Hôtel Dieu.
UNITED STATES.	{	M. LALLEMAND,
		Member of the Academy of Sciences, &c.
		THOS. CHADBOURNE, M.D.

* N.B. This is the *only artificial leg* that received *special honorary mention* in the Report of the Royal Commissioners.

WORLD'S GREAT EXHIBITION,

CRYSTAL PALACE, NEW YORK, 1853.

PALMER, FOR BEST ARTIFICIAL LEG—SILVER MEDAL.

JURORS.

PROF. WILLARD PARKER, New York.

" A. CLARK,

" CARNOCHAN,

PROF. J. RENWICK, Chairman.

DR. GALLARDET, Paris.

" PARKMAN, Boston.

" E. G. LUDLOW, New York.

AND OTHERS.

THE FIRST REPORT.

I HAVE the honor to present the first Report, made by eminent judges in the year 1846. It will be noticed that this and some other Reports were made before I had *any associates in the business*. The reader will notice, in the language of the distinguished Jurors, the highest possible encomium.

Special attention is called to the last Report, in reference to "No. 840." The maker of this leg has been arrested, and is now under heavy bonds for violation of the Patents.

AMERICAN INSTITUTE, NEW YORK; EXHIBITION, 1846.

PALMER'S PATENT LEG.

In its appearance, and in its movements, it so accurately resembles the natural limb as to *require a careful examination before it can be decided to be anything else but the limb provided by nature*. It combines *lightness with firmness*, and we recommend that a SILVER MEDAL be awarded to its inventor.

AMERICAN INSTITUTE, 1847.

PALMER'S PATENT ARTIFICIAL LEG.—Although this article received a Silver Medal last year, yet its superiority over every other construction of the kind, in our judgment merits the still further notice of the Institute, and we recommend a GOLD MEDAL.

D. MEREDITH REESE, M.D.,
ALFRED C. POST, M.D.,
S. RUSSELL CHILDS, M.D.,
Judges.

AMERICAN INSTITUTE, 1850.

PALMER & CO. FOR THE BEST ARTIFICIAL LEG. A GOLD MEDAL.

It is superior to any other ever constructed, and merits, for science and humanity, the highest testimonial of the Institute.

LAST REPORT OF THE AMERICAN INSTITUTE.

BEST ARTIFICIAL LEG—No. 225. Palmer's Artificial Leg still retains its superiority over all others. GOLD MEDAL *certified*.

No. 840.—Jewett's Leg is only a modification of PALMER'S, and has no claim to a premium.

D. M. REESE, M.D., LL.D.,
PROF. J. M. CARNOCHAN, M.D.,
PROF. H. G. COX, M.D.,
Judges.

SECOND REPORT.

It is indeed gratifying to the Inventor at this time, when, for the first instance, his personal ability to construct *his own Patent* is called in question by *mountebanks*, and *piratical copyists*, to fall back upon his old "base of operations," and there, far from the day when the first *rebel picket* appeared in the distance, review the triumphs of unaided and unembarrassed effort. Who will say that old truth is not better than new falsehood?

MASSACHUSETTS CHARITABLE MECHANIC ASSOCIATION,
BOSTON, 1847.

PALMER'S PATENT LEG.

The Committee are of opinion, that this invention fulfils the various requisites of a substitute for the lower limb, as completely as any artificial machinery ever can be expected to do. *In imitating the various movements, in the mode in which the flexions of the knee, ankle, and foot are connected, and the apparent reliability and permanence of the mechanical details, they do not see any failure to fulfil the highest possible requisites.* They recommend that Mr. Palmer's successful improvement be acknowledged by the bestowal upon him of a SILVER MEDAL.

J. WINSLOW LEWIS, M.D.,

LUTHER V. BELL, M.D.,

(Late Brigade Surgeon),

Judges.

MASSACHUSETTS C. M. ASSOCIATION, 1853.

Palmer & Co. One Case Artificial Legs. This article, of which are exhibited two very fine specimens, one for loss of limb above the knee, and the other below only, has been already fully reported upon by former Committees, who had every opportunity to examine and test its merits. And the Committee would have simply referred to those reports, but for the fact that Messrs. Palmer & Co. have accomplished what has heretofore been deemed an impossibility, viz., enabling a person who has lost both legs, as in the case of Mr. Sanford, with one adjusted at the thigh, and the other below the knee, to walk with two substitutes. The young man who exhibits their models, shows in his own person ability to walk fairly *without a cane*, upon a pair of Messrs. Palmer & Co.'s Legs. So far as we know, this Leg is without an important rival in this and foreign countries.

For the Leg, we recommend a GOLD MEDAL.

HENRY G. CLARK, M.D.,

WINSLOW LEWIS, M.D.,

GEORGE BARTLETT, M.D.,

HENRY J. BIGELOW, M.D.,

Judges.

THIRD REPORT.

FRANKLIN INSTITUTE, PHILADELPHIA.

HALL OF THE FRANKLIN INSTITUTE,
PHILADELPHIA, Jan. 11th, 1849.

THE COMMITTEE ON SCIENCE AND THE ARTS, constituted by the FRANKLIN INSTITUTE of the State of Pennsylvania, for the promotion of the MECHANIC ARTS, to whom was referred for examination an Artificial Leg,* invented by B. Franklin Palmer, report as follows, viz.:

* * * * *

In conclusion, the Committee would remark, that the ARTIFICIAL LEG of Mr. Palmer is SUPERIOR TO ANY THAT HAS YET COME UNDER THEIR NOTICE. It is light, strong, beautifully shaped, apparently very durable, self-acting in a greater degree than anything they have ever met with, easy and natural in its motion, and possesses apparently all the qualities desirable or attainable in such an invention.

The Committee would recommend the award to the inventor of "SCOTT'S LEGACY MEDAL AND PREMIUM," and also to the Committee on Exhibitions, to award to him the FIRST PREMIUM, for his model exhibited in the late Exhibition.

By order of the Committee.

WILLIAM HAMILTON,
Actuary.

METROPOLITAN MECHANICS' INSTITUTE, WASHINGTON.

THE PALMER ARTIFICIAL LEG, manufactured and deposited by B. Frank. Palmer, merits our highest commendation. It is beautifully finished, and is, without doubt, the most perfect Artificial Limb ever invented. MEDAL.

THOMAS MILLER, M.D.,
W. P. JOHNSON, M.D.,
And others,
Jurors.

MARYLAND INSTITUTE, BALTIMORE.

PALMER'S PATENT LEG—by far the best of this kind of mechanical contrivance that has ever fallen under the observation of the Committee, who report it as the article worthy of the highest commendation. A GOLD MEDAL.

N. R. SMITH, M.D.,
LEONARD MACKALL, M.D.,
C. A. HARRIS, M.D.,

WM. M. KEMP, M.D.,
CHARLES FRICK, M.D.,
WILLIAM PRATT, M.D.,
Judges.

* Presented in May, 1846.